

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Original) A liquid crystal display apparatus comprising:
 - a plurality of pixels arranged in rows and columns, each for providing luminance corresponding to a display voltage;
 - a plurality of first gate lines provided corresponding to respective said rows of said plurality of pixels;
 - a plurality of second gate lines provided corresponding to respective said rows of said plurality of pixels;
 - a plurality of data lines provided corresponding to respective said columns of said plurality of pixels;
 - a gate drive circuit for driving each of said plurality of first and second gate lines to a voltage that is different between a select state in which corresponding one of said rows is selected for a scanning target in accordance with a prescribed scanning cycle and a non-select state except for said select state; and
 - a source drive circuit for driving said plurality of data lines to said display voltage that corresponds to the pixels included in the row selected for said scanning target;
- said plurality of pixels each including
 - a liquid crystal element having a pixel electrode and a common electrode for providing luminance that corresponds to a voltage difference between said pixel electrode and said common electrode,

Application No.: 10/613,212

a first field-effect transistor electrically connected between corresponding one of said data lines and a first node, and having its gate electrically connected to corresponding one of said first gate lines, and

a second field-effect transistor electrically connected between said first node and said pixel electrode, and having its gate electrically connected to corresponding one of said second gate lines;

said gate drive circuit setting each voltage of said first and second gate lines in said select state to a first voltage that can turn-on each of said first and second field-effect transistors, while setting a voltage of said first gate line in said non-select state to a second voltage that can turn-off said first field-effect transistor as well as setting a voltage of said second gate line in said non-select state to a third voltage that is intermediate between a maximum value and a minimum value of said display voltage.

2. (Original) The liquid crystal display apparatus according to claim 1,

said common electrode being supplied with a prescribed DC voltage, and said third voltage being substantially at a same level as said prescribed DC voltage.

3. (Original) The liquid crystal display apparatus according to claim 1,

said common electrode being supplied with an AC voltage that is set to one of fourth and fifth voltages in a constant cycle, and

said third voltage being substantially at a same level as an average of said fourth and fifth voltage.

4. (Original) The liquid crystal display apparatus according to claim 1,
said gate drive circuit including
a plurality of drive units provided corresponding to said rows, respectively;
said plurality of drive units each including
a first driver for driving corresponding one of said first gate lines with one of said first
and second voltages in response to a select signal that indicates whether said corresponding one
of said rows is selected for said scanning target, and
a second driver for driving corresponding one of said second gate lines with one of said
first and third voltages in response to said select signal.

5. (Original) The liquid crystal display apparatus according to claim 1,
said gate drive circuit setting said second gate line in the non-select state to said third
voltage in a normal mode, and setting to a sixth voltage in a test mode, and
a difference between said first and sixth voltages being larger than a difference between
said first and third voltages.

6. (Original) The liquid crystal display apparatus according to claim 5,
said sixth voltage being substantially at a same level as said second voltage.

7. (Original) The liquid crystal display apparatus according to claim 1,
said first and second field-effect transistors being formed with an N-type thin film
transistor, and
said first voltage being higher than said second voltage.

8. (Original) The liquid crystal display apparatus according to claim 1,
said first and second field-effect transistors being formed with a P-type thin film transistor, and

said first voltage being lower than said second voltage.

9. (Original) A liquid crystal display apparatus comprising:
a pixel for providing luminance corresponding to a display voltage; and
a data line for transmitting said display voltage supplied to said pixel;
said pixel including
a liquid crystal display element having a pixel electrode and a common electrode for providing luminance corresponding to a voltage difference between said pixel electrode and said common electrode,

a first field-effect transistor electrically connected between said data line and a first node,
and

a second field-effect transistor electrically connected between said first node and said pixel electrode;

the liquid crystal display apparatus further comprising

a gate drive circuit for driving each gate voltage of said first and second field-effect transistors to a voltage that is different between a select state in which said pixel is selected for a scanning target in accordance with a prescribed scanning cycle and a non-select state except for said select state;

Application No.: 10/613,212

said gate drive circuit in said select state setting each said gate voltage to a first voltage that can turn-on each of said first and second field-effect transistors, while setting a gate voltage of said first field-effect transistor in said non-select state to a second voltage that can turn-off said first field-effect transistor as well as setting a voltage of said second field-effect transistor in said non-select state to a third voltage that is intermediate between a maximum value and a minimum value of said display voltage.

10. (New) The liquid crystal display apparatus according to claim 1,
said third voltage being substantially at a constant level among fields.

11. (New) The liquid crystal display apparatus according to claim 9,
said third voltage being substantially at a constant level among field.